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Fats and Oils Situation

Economics, Statistics,
and Cooperatives Service

U.S. Department of
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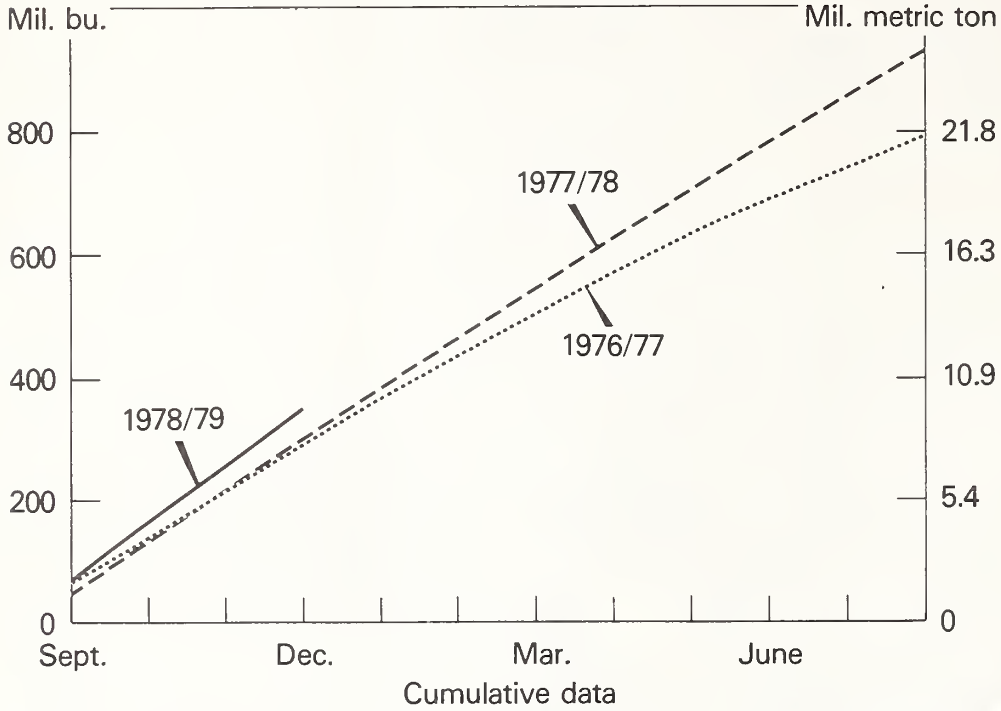
Approved by the
World Food and
Agricultural Outlook
and Situation Board

Monthly U.S. Soybean Crushings



USDA

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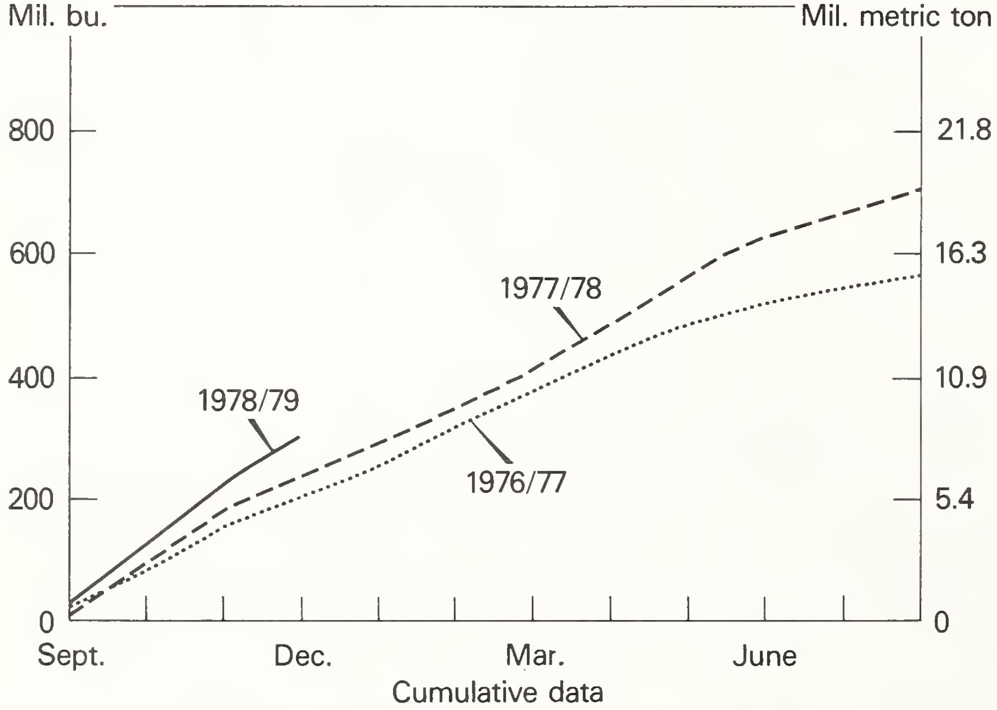
Monthly U.S. Soybean Exports



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SUMMARY

U.S. soybean supplies this marketing year total 2.0 billion bushels, a record high and some 7 percent more than in 1977/78. However, exceptionally strong demand has boosted prices received by farmers well above year-earlier levels. U.S. farm prices so far this season averaged about $6.40 per bushel, nearly $1 above a year earlier.

Demand will continue strong although there may be some slackening by spring. Brazil, the world's second largest soybean producer, has nearly exhausted its supply of beans from the reduced 1978 crop. This has left the United States as the world's sole major supplier of soybeans until spring. However, dry weather in Brazil has caused uncertainty about the potential size of that country's 1979 crop to be harvested in March-April.

U.S. soybean use is expected to reach 1.84 billion bushels, about equal to 1978 production and some 8 percent above 1977/78. This would leave carryover stocks next September at around 160 million bushels, or near the September 1, 1978 level.

Crushings are running 15 percent ahead of the 1977/78 pace and are expected to approximate 1.0 billion bushels for the entire marketing year. Soybean exports are also strong, running 30 percent ahead of last year. For all of 1978/79, exports may total about 760 million bushels compared with 700 million in 1977/78.

Soybean prices may moderate some from current levels if U.S. farmers follow through on intentions to plant more acres in 1979 and if prospective South American crops are record large.

In January, U.S. farmers said they intend to plant about 66 million acres of soybeans this spring, 4 percent above last year's record level. If these intentions are fulfilled and weather is favorable, 1979/80 soybean supplies (production plus stocks) could exceed the 2.0 billion bushels of the current season.

On January 1, U.S. soybean stocks totaled 1.38 billion bushels, up 4 percent from year-earlier levels despite a 7-percent increase in 1978/79 supplies. This is because about 20 percent more soybeans were crushed and exported during September-December than in 1977. About half of the January 1 stocks were on the farm.

Sunflowerseeds are gaining importance in the U.S. oilseed economy. Total supplies in 1978/79 are estimated at a record 1.9 million metric tons, about two-fifths above a year earlier. Over 90 percent of supply is the oilseed variety (40-45 percent oil content) and the remainder is confectionery and birdfeed types (low oil content). The 1978/79 crush is estimated at 0.4 million tons and this should produce around 155,000 tons of crude sunflower oil. The bulk of U.S. sunflowerseed production is still exported, with volume this season estimated at 1.3 million tons of seed or about two-thirds of total supply.

U.S. consumption of sunflowerseed oil is expanding sharply this year as food processors use increasing amounts in cooking oil and margarine products.

U.S. disappearance of food fats and oils reached nearly 57 pounds (fat content) per person in the 1977/78 marketing year, up 3 pounds from 1976/77 and about 1 pound above the previous high in 1975/76. Most of the gain was in cooking/salad oils, although shortening consumption also rose. Domestic disappearance during October-November, the first 2 months of the 1978/79 marketing year, ran about 9 percent above the year-earlier level. For all of 1978/79, per capita use may be up slightly.

World production of high-protein meal is forecast well above trend again in 1978/79, rising about 7 percent to over 84 million metric tons (soybean meal equivalent). Fats and oils output also will be above trend, increasing some 4 percent over the 1977/78 level of 53 million tons. The anticipated increase is due to larger output of edible vegetable oils. Production of animal fats may decline slightly.

Strong world demand for protein meals and vegetable oils in 1978 resulted in a rise of about a tenth in apparent world consumption of both. Increased feeding of tapioca in Europe and the decline of the U.S. dollar in 1977/78 significantly increased demand for soymeal in Europe and Japan. World consumption of both protein meal and edible vegetable oils is expected to rise about in line with production in 1979.

* * * * *

FATS AND OILS SITUATION

SITUATION AND OUTLOOK

Soybean Intentions Point to Record Acreage in 1979

Based on USDA's planting intentions survey as of January 1, farmers will seed a record 66.3 million acres to *soybeans* in 1979, compared with the 64.0 million planted in 1978. Soybean prices are high in relation to corn this season and this has encouraged farmers to expand prospective soybean plantings in the Corn Belt. Increased wheat plantings in the eastern Corn Belt and expanded cotton plantings in the South may moderate the increase in 1979 soybean plantings.

As in 1978, soybeans are not included in the 1979 set-aside programs in effect for wheat and feed grains. However, if a farmer is in the program, he must comply with the set-aside requirements in order to be eligible for price supports on all commodities, including soybeans. The 1979 soybean crop loan rate is $4.50 per bushel, the same as in 1978.

The 1979 soybean planted acreage will vary somewhat from January intentions depending upon economics, weather, and Government program developments. Prospective 1979 corn acreage, at 80.6 million acres, is up from the 79.7 million acres planted in 1978.

Farmers will be resurveyed around April 1 and the Prospective Plantings report to be released April 16 will indicate farmers' planting intentions closer to planting time. Early last year, soybean farmers indicated they would seed 64 million acres, which they did.

Prospective *cotton* acreage, at 14.0 million acres, is up from the 13.4 million last year. Reduced cotton production in 1978 and relatively favorable prices to growers are the principal reasons for the planned expansion in 1979.

Sunflowerseed planting intentions in 4 States (North Dakota, South Dakota, Minnesota, and Texas) show that 4.1 million acres will be seeded in 1979, about 48 percent more than last year. Prices to growers have increased in recent years, making sunflowers an attractive cash crop in the Red River Valley area.

SOYBEANS

Record Supply/Use This Season; Carryover Stocks Continue Low

Record soybean acreage resulted in a record 1978 crop of 1,843 million bushels, up 5 percent from the year before. Carryover stocks last September 1 of 161 million bushels boosted total 1978/79 soybean supplies to 2.0 billion bushels, compared with 1.86 in 1977/78.

U.S. soybean use is expanding this season—accelerated by the reduced South American supplies—and likely will total 1.84 billion bushels, some 8 percent above 1977/78. Both domestic crushing and exports are expected to increase in 1978/79, possibly about in line with supply. Consequently, carryover stocks on September 1, 1979 probably will total around 160 million bushels, about the same as at the start of the season.

Crushings To Reach a Record Billion Bushels This Year

Soybean crushings during September-December 1978 totaled a record 347 million bushels, about 47 million bushels or 16 percent above 1977. The monthly crush hit a record high 96 million bushels in December. The crush rate should continue heavy this winter and early spring but may show sharper than normal declines during the summer. This would reflect the declining availability of U.S. soybeans for crushing at a time when South America may be marketing record soybean crops.

Soybean crushings for all of 1978/79 are expected to approximate 1.0 billion bushels, compared with 927 million processed last season. This mainly reflects the strong demand for soybean meal in livestock and poultry feeding compounds since feeding price ratios are favorable and there are large numbers of hogs, chickens, and cattle on feed.

Another factor adding impetus to the soybean crush is the favorable processing margin. Spot margins during September-December averaged 44

TABLE 1.--SOYBEANS: ACREAGE, PRODUCTION, PRICE, AND VALUE BY STATES AND AREAS, CROP YEARS 1976-78

STATE AND AREA	ACREAGE HARVESTED			YIELD PER ACRE HARVESTED			PRODUCTION			PRICE PER BUSHEL RECEIVED BY FARMERS			VALUE OF PRODUCTION		
	1976	1977	1978 1/	1976	1977	1978 1/	1976	1977	1978 1/	1976	1977	1978 1/	1976	1977	1978 1/
	1,000 ACRES			BUSHELS			MILLION BUSHELS			DOLLARS			MILLION DOLLARS		
NORTH CAROLINA	1,120	1,320	1,550	22.0	22.0	24.0	24.6	29.0	37.2	6.65	6.02	6.45	163.9	174.8	239.9
SOUTH CAROLINA	1,190	1,300	1,470	18.0	20.5	22.0	21.4	26.7	32.3	6.82	6.05	6.45	146.1	161.2	208.6
GEORGIA	870	1,090	1,680	23.5	20.0	17.5	20.4	21.8	29.4	6.44	6.16	6.25	131.7	134.3	183.8
ALABAMA	1,170	1,600	1,950	24.0	21.0	22.0	28.1	33.6	42.9	6.44	5.68	6.40	180.8	190.8	274.6
TOTAL SOUTHEAST	4,350	5,130	6,650	21.7	20.9	21.3	94.5	111.1	141.8	6.59	5.98	6.39	622.5	661.1	906.9
KENTUCKY	1,070	1,320	1,410	27.0	31.0	30.0	28.9	40.9	42.3	6.74	6.18	6.40	194.7	252.9	270.7
TENNESSEE	1,800	2,220	2,420	22.5	23.5	23.5	40.5	52.2	56.9	6.63	5.68	6.60	268.5	296.3	375.3
MISSISSIPPI	3,250	3,650	3,800	22.0	21.5	21.5	71.5	78.5	81.7	6.42	6.18	6.45	459.0	485.0	527.0
ARKANSAS	4,320	4,600	4,700	19.0	23.0	24.0	82.1	105.8	112.8	6.50	6.15	6.50	533.5	650.7	733.2
LOUISIANA	2,250	2,680	2,840	28.0	23.5	25.0	63.0	63.0	71.0	6.41	5.78	6.40	403.8	364.0	454.4
TOTAL SOUTH CENTRAL	12,690	14,470	15,170	22.5	23.5	24.0	286.0	340.4	364.7	6.54	5.99	6.47	1,859.5	2,048.9	2,360.6
OHIO	2,880	3,380	3,750	33.0	35.5	33.0	95.0	120.0	123.8	6.99	5.82	6.50	664.3	698.3	804.4
INDIANA	3,280	3,900	4,130	34.0	37.0	34.0	111.5	144.3	140.4	6.70	5.59	6.50	747.2	806.6	912.7
ILLINOIS	7,560	8,850	9,190	33.0	38.0	33.0	249.5	336.3	303.3	7.05	6.01	6.45	1,758.8	2,021.2	1,956.1
IOWA	6,450	7,080	7,550	31.0	35.5	38.0	200.0	251.3	286.9	7.05	5.92	6.40	1,409.6	1,487.9	1,836.2
MISSOURI	4,200	4,650	5,440	20.0	32.0	28.5	84.0	148.8	155.0	6.65	5.74	6.50	588.6	854.1	1,007.8
MINNESOTA	3,020	3,770	4,060	22.0	35.5	35.0	66.4	133.8	142.1	7.22	5.90	6.20	479.7	789.6	881.0
TOTAL EASTERN CORN BELT	27,390	31,630	34,120	29.4	35.9	33.7	806.4	1,134.5	1,151.5	6.94	5.83	6.43	5,648.2	6,657.7	7,398.2
NORTH DAKOTA	147	175	173	12.5	20.0	27.5	1.8	3.5	4.8	7.30	5.83	5.90	13.4	20.4	28.1
SOUTH DAKOTA	271	315	390	17.0	30.5	30.5	4.6	9.6	11.9	6.67	5.63	6.25	30.7	54.1	74.3
NEBRASKA	980	1,130	1,250	20.0	36.0	34.0	19.6	40.7	42.5	6.48	5.74	6.20	127.0	233.5	263.5
KANSAS	865	990	1,450	15.0	28.5	18.0	13.0	28.2	26.1	6.52	5.50	6.40	84.6	155.2	167.0
TOTAL WESTERN CORN BELT	2,263	2,610	3,263	17.2	31.4	26.1	39.0	82.0	85.3	6.74	5.68	6.19	255.7	463.2	532.9
ALL OTHER 2/	2,665	3,592	3,800	23.2	26.1	26.1	61.7	93.8	99.3	6.63	5.59	6.38	383.1	520.6	639.1
UNITED STATES	49,358	57,612	63,003	26.1	30.6	29.2	1.287.6	1,761.8	1,842.6	6.81	5.88	6.42	8,769.0	10,351.5	11,837.7

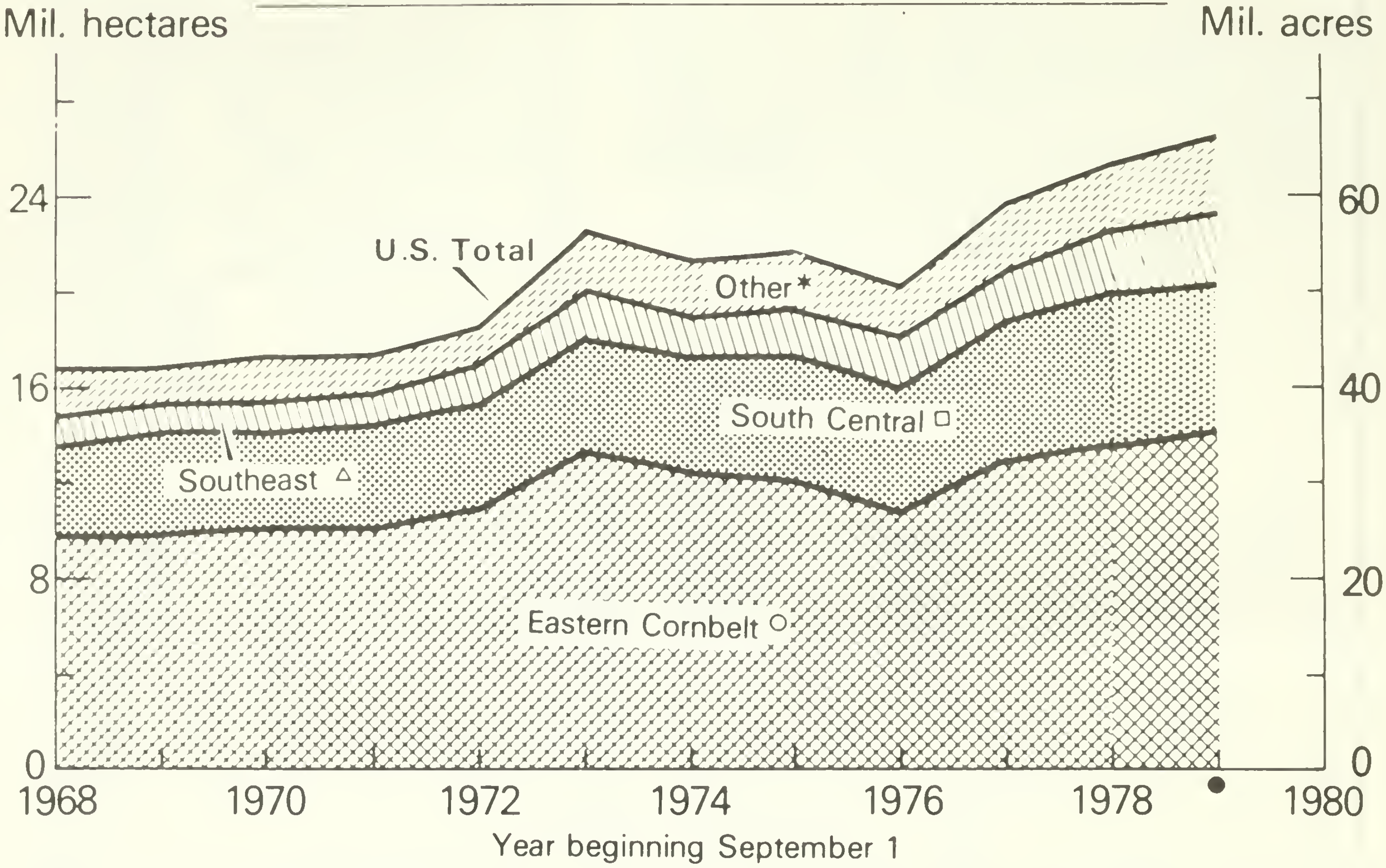
1/ PRELIMINARY.
2/ NEW YORK, NEW JERSEY, PENNSYLVANIA, MICHIGAN, WISCONSIN, DELAWARE, MARYLAND, VIRGINIA, FLORIDA, OKLAHOMA, AND TEXAS.

TABLE 2--SOYBEANS: U.S. SUPPLY AND DISAPPEARANCE, 1955-78

YEAR BEGINNING SEPTEMBER	SUPPLY								DISAPPEARANCE							
	PRODUCTION	STOCKS, SEPTEMBER 1						TOTAL SUPPLY	DOMESTIC DISAPPEARANCE						EXPORTS	TOTAL
		TRADE 1/	GOVERNMENT 1/				TOTAL STOCKS		CRUSHING	USED FOR SEED		FEED	RESIDUAL 3/	TOTAL		
			OWNED BY CCC	UNDER LOAN	RESEAL	TOTAL				TOTAL	PER ACRE PLANTED 2/					
	MILLION BUSHELS										BUSHELS	MILLION BUSHELS				
1955	373.7	13.2	8.2	1.2	---	9.4	22.6	396.3	281.9	25.8	1.19	1.6	-2.6	306.7	68.6	375.3
1956	449.3	20.9	4/	0.1	---	0.1	21.0	470.3	313.6	26.4	1.20	1.7	13.3	355.0	83.7	438.7
1957	483.4	24.2	6.2	1.2	---	7.4	31.6	515.0	350.9	29.5	1.18	1.5	1.9	383.8	88.4	472.2
1958	580.2	26.2	12.7	3.9	---	16.6	42.8	623.0	398.8	27.4	1.17	1.9	2.1	430.2	105.0	535.2
1959	532.9	29.0	44.6	5/	14.2	58.8	87.8	620.7	394.0	29.3	1.20	1.5	4.2	429.0	139.9	568.9
1960	555.1	36.9	14.7	0.2	---	14.9	51.8	606.9	406.1	32.5	1.17	1.3	5.2	445.1	134.7	579.8
1961	678.6	27.1	---	---	---	---	27.1	705.7	431.4	33.3	1.17	1.3	11.9	477.9	149.4	627.4
1962	669.2	19.8	47.0	0.4	11.1	58.5	78.3	747.5	472.7	34.6	1.17	1.1	12.1	520.7	180.8	701.5
1963	699.2	41.2	2.5	2.2	0.1	4.8	46.0	745.2	436.8	36.0	1.14	0.9	16.9	490.7	187.2	677.9
1964	700.9	41.3	11.8	11.2	3.0	26.0	67.3	768.2	479.0	40.3	1.14	0.9	6.2	526.3	212.2	738.5
1965	845.6	29.7	---	---	---	---	29.7	875.3	537.5	42.8	1.15	0.9	8.0	589.1	250.6	839.7
1966	928.5	35.6	---	---	---	---	35.6	964.1	559.4	47.1	1.15	0.9	4.9	612.4	261.6	874.0
1967	976.4	56.2	7.4	21.5	5.0	33.9	90.1	1066.6	576.4	48.6	1.15	0.9	7.8	633.7	266.6	900.2
1968	1107.0	88.7	29.4	6.7	41.5	77.6	166.3	1273.3	605.9	47.3	1.11	0.9	5.4	659.5	287.0	946.4
1969	1133.1	10.0	171.4	6/41.9	103.5	316.8	326.8	1460.0	737.3	48.5	1.13	0.9	10.8	797.5	432.6	1230.1
1970	1127.1	32.9	150.2	5.1	41.6	196.9	229.8	1356.9	760.1	48.1	1.11	1.1	15.1	824.4	433.8	1258.2
1971	1176.1	87.4	2.5	3.0	5.9	11.4	98.8	1274.9	720.5	51.0	1.09	1.1	13.5	786.1	416.8	1202.9
1972	1270.6	70.5	4/	1.5	---	1.5	72.0	1342.6	721.8	60.8	1.07	1.1	19.8	803.5	479.4	1282.9
1973	1547.5	59.4	---	0.2	---	---	59.6	1607.2	821.3	56.1	1.07	1.2	18.7	897.3	539.1	1436.4
1974	1216.3	170.0	---	0.8	---	---	170.8	1387.0	701.3	57.2	1.05	1.0	21.7	781.2	420.7	1201.9
1975	1547.4	187.8	---	0.4	---	0.4	188.2	1735.5	865.1	53.5	1.07	1.2	15.7	935.5	555.1	1490.6
1976 7/	1287.6	244.9	---	---	---	---	244.9	1532.5	790.2	61.0	1.10	1.0	13.3	865.5	564.1	1429.6
1977 7/	1761.8	102.9	---	---	---	---	102.9	1864.7	926.7	68.0	1.06	1.0	7.5	1003.2	700.5	1703.7
1978 8/	1842.6	161.0	---	---	---	---	161.0	2003.6	1000	70	1.06	1	13	1084	760	1844
1979 8/							160									

1/ ESTIMATES. 2/ IN THE FOLLOWING YEAR. 3/ MOSTLY STATISTICAL DISCREPANCIES. 4/ LESS THAN 500000 BUSHELS. 5/ SMALL QUANTITIES INCLUDED WITH RESEAL. 6/ SOME OF THESE SOYBEANS PROBABLY HAD BEEN REDEEMED PRIOR TO SEPTEMBER 1. 7/ PRELIMINARY. 8/ FORECAST.

U.S. Soybean Acreage Planted



○ Illinois, Indiana, Iowa, Missouri, Minnesota and Ohio. □ Arkansas, Louisiana, Mississippi, Kentucky and Tennessee. △ North Carolina, South Carolina, Georgia and Alabama. * Western cornbelt states and all other. ● Based on January 1 planting intentions.

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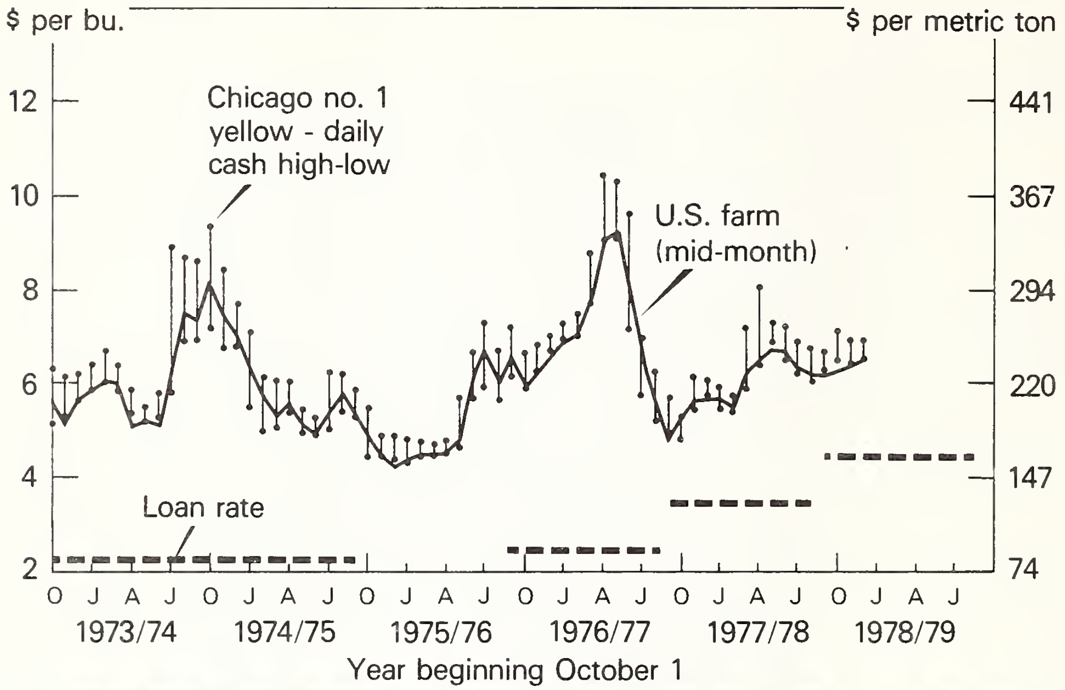
U.S. Soybean Prices



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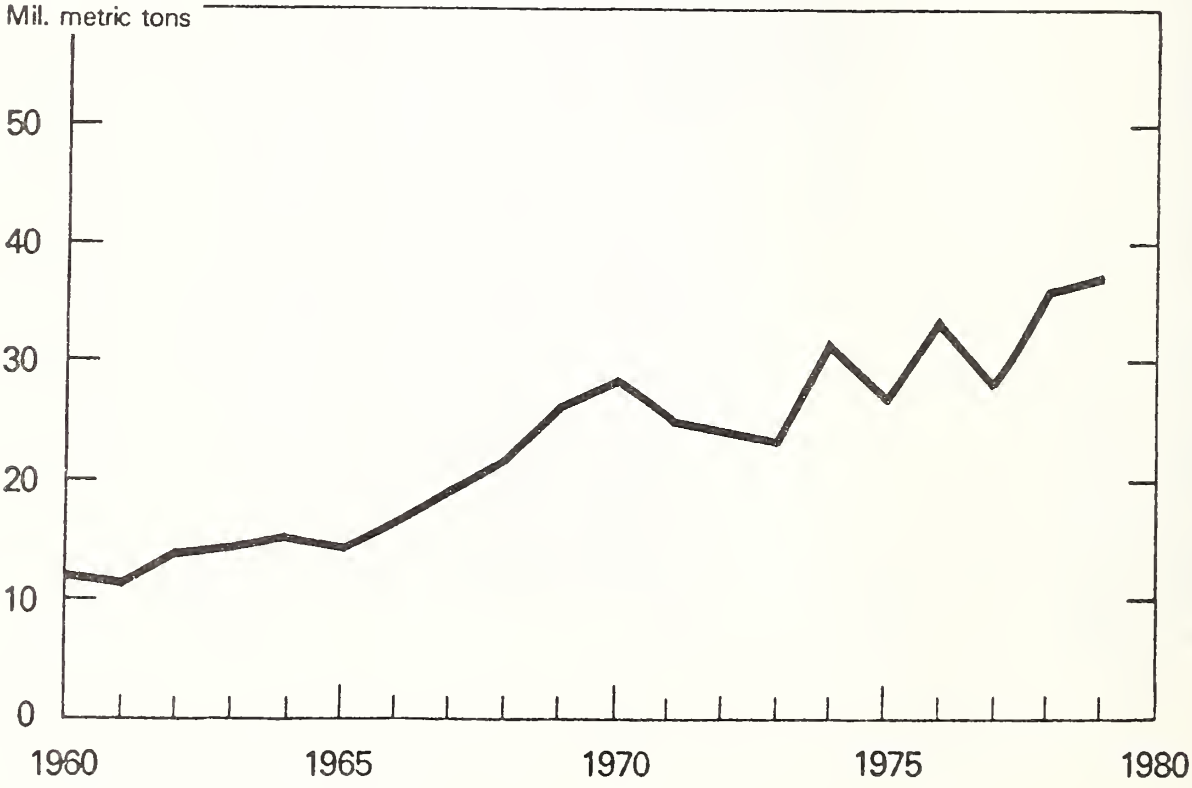
U.S. Soybean Stocks, January 1



cents per bushel, compared with 27 cents a year earlier. The margin reached a record 72 cents in the 1973/74 crush year.

Exports to Reach New Highs

Soybean exports in 1978/79 are forecast at about 760 million bushels, compared with 700 million last season. Export demand will continue strong at least until South American soybeans become available next April. Brazil, the world's second largest producer, has nearly exhausted its supply of beans from the sharply reduced 1978 crop. This has left the United States as the only major supplier of soybeans until spring. However, dry weather in Brazil caused some uncertainty about the potential size of that country's 1979 crop to be harvested this March/April.

World demand for soybean meal in feeding compounds continues to expand and U.S. soybean meal is favorably priced in consuming countries when the dollar exchange rate is considered.

U.S. soybeans inspected for export from September 1 through January 26 totaled 361 million bushels, about 83 million above the 1977/78 level. Most of this increase is destined for Western Europe, although exports to Japan and Taiwan are running well ahead of last year's rate.

Harvest Prices Well Above Year-Earlier Level

The continuing strong processor and exporter demand for soybeans and the prudent marketing of the crop by farmers have resulted in prices well above year-earlier levels.

Prices received by farmers for soybeans advanced from $6.19 per bushel in September to $6.68 in January. So far this marketing year, prices have averaged about $6.40 per bushel, compared with $5.50 in September-January 1977/78. Soybean prices may moderate some from current levels if U.S. farmers follow through on intentions to plant more acres in 1979 and if prospective South American crops are record large.

Soybean Stocks Above Last Year's Level

Despite the record 1978 soybean crop, record use during September-December resulted in January 1 stocks of 1,377 million bushels, up 4 percent from last year. About half of the January 1 stocks were on farms and soybean producers controlled a large portion of beans stored off the farm.

SOYBEAN OIL

Domestic Use Up; Exports Off

Soybean oil supplies in 1978/79 are estimated at 11½ billion pounds compared with 11.0 billion last season. Domestic use is expected to rise to around 8.7 billion pounds or some 5 percent above 1977/78. U.S. supplies of competitive cottonseed oil, palm oil, and butter are smaller this marketing year, but there are greater quantities of sunflowerseed oil and corn oil. Domestic disappearance during October-November, at 1.6 billion pounds, was up a tenth.

The domestic use of soybean oil has shown a strong uptrend for many years and now accounts for over 60 percent of all food fats and oils used in the United States.

Soybean oil exports this marketing year are projected at around 1.8 billion pounds, down from the record 2.0 billion pounds shipped in 1977/78. P.L. 480 sales (Titles I and II) are expected to total 0.4 billion pounds in 1978/79, CCC credit sales another 0.2 billion pounds, and the remainder dollar sales. The prospective decline in exports mainly reflects improved oilseed crops in many foreign countries and reduced P.L. 480 (Title I) shipments. During October-December 1978, about 465 million pounds of soybean oil were exported, about the same as the year-earlier period.

Soybean oil prices (crude, Decatur) have been relatively stable so far this marketing year, averaging 26 cents per pound, compared with 21 cents during October-January 1977/78. A price rise similar to last year—from 21 cents per pound in January 1978 to 29 cents in May—is not likely this year because of increased competition from other sources of vegetable oils both here and abroad. The U.S. processor is grinding soybeans to meet soybean meal demand and this is expected to build the soybean oil inventory to about 1.0 billion pounds by next October 1. Of course, any unexpected pickup in export demand from India or China will strengthen U.S. soybean oil prices.

SOYBEAN MEAL

Demand Strong; New Highs Expected This Year

U.S. soybean meal supplies for 1978/79 are projected at about 24 million short tons, compared with 22½ million last season. Domestic use of

TABLE 3--SOYBEAN OIL: SUPPLY, DISAPPEARANCE OIL EQUIVALENT OF EXPORTS OF SOYBEANS, AND PRICE, 1960-1978

YEAR BEGINNING OCTOBER	SUPPLY				DISAPPEARANCE				SOYBEAN (OIL EQUIVALENT OF EXPORTS) 1/	PRICE PER POUND (TANK CARS)	
	PRODUCTION	IMPORTS	STOCKS OCTOBER 1	TOTAL	EXPORTS	SHIPMENTS TO U.S. TERRITORIES	DOMESTIC DISAPPEARANCE			CRUDE, DECATUR	REFINED, N.Y.
							TOTAL	PER CAPITA			
	MILLION POUNDS							POUNDS	MIL. LB.	CENTS	
1960	4420	---	308	5456	2/700	---	3329	18.5	1431	11.3	13.6
1961	4790	---	677	5467	2/1308	---	3540	19.4	1685	9.5	11.7
1962	5091	---	618	5709	2/1165	---	3624	19.5	1984	8.9	11.1
1963	4822	---	920	5742	2/1106	---	4058	21.5	2193	8.5	10.7
1964	5146	---	578	5724	2/1340	---	4069	21.3	2265	11.3	13.4
1965	5800	---	297	6097	923	25	4687	24.3	2764	11.8	13.6
1966	6076	3/	462	6538	1077	28	4637	24.8	2930	10.1	12.4
1967	6032	---	596	6628	963	30	5096	25.9	2972	8.4	10.5
1968	6531	3/	540	7071	870	29	5756	29.0	3148	8.4	10.4
1969	7904	---	415	8325	1420	29	6328	31.5	4941	11.2	13.1
1970	8265	---	543	8808	1742	40	6253	30.7	4764	12.8	14.6
1971	7892	3/	773	8664	1398	42	6439	31.3	4429	11.3	12.7
1972	7501	3/	785	8286	1066	20	6685	32.2	5191	16.5	17.7
1973	8995	3/	516	9510	1435	26	7255	34.7	6100	31.5	33.0
1974	7375	---	794	8169	1028	62	6518	30.9	4643	30.7	33.0
1975	9630	---	561	10190	976	58	7906	37.2	6083	18.3	23.5
1976	8578	---	1251	9828	1547	60	7454	34.8	6126	23.9	29.2
1977 4/	10288	---	767	11055	2057	58	8211	37.6	7958	24.5	29.6
1978 5/	10800	---	729	11530	1800	75	8625		8400	6/26	
1979											

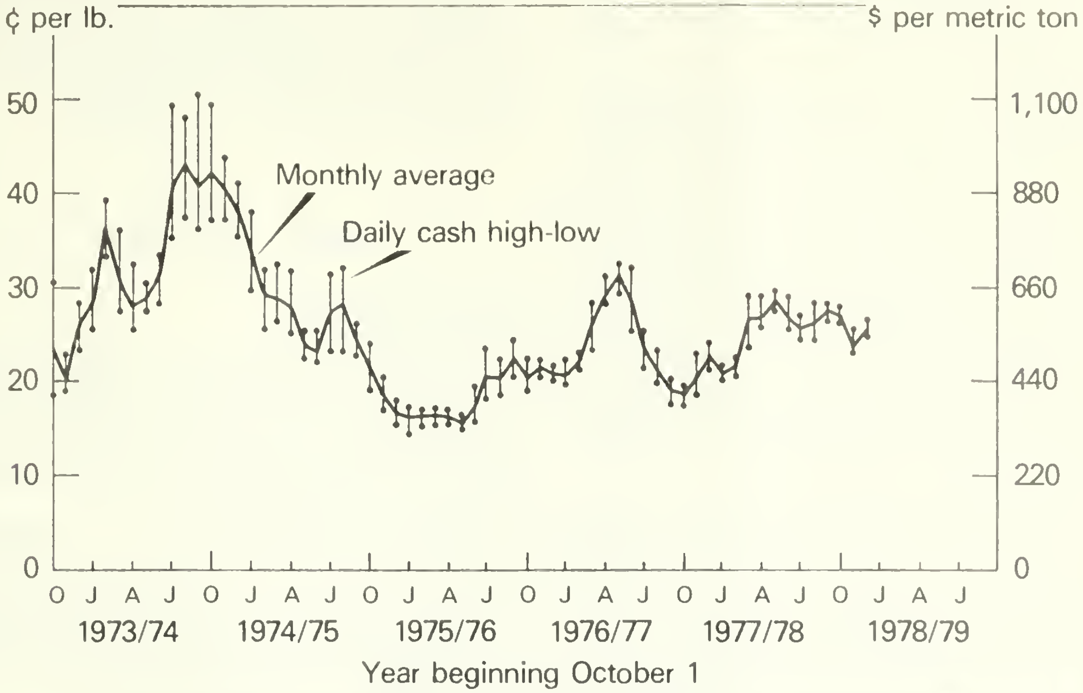
1/ CALCULATED AT 11.0 POUNDS OF OIL PER BUSHEL. 2/ INCLUDES ESTIMATES OF FOREIGN DONATIONS OF FATS AND OILS, NOT REPORTED BY CENSUS, 1960-1964. 3/ LESS THAN 500000 POUNDS. 4/ PRELIMINARY. 5/ FORECAST. 6/ OCT.-JAN. AVERAGE

TABLE 4--SOYBEAN MEAL: SUPPLY, DISAPPEARANCE, MEAL EQUIVALENT OF EXPORTS OF SOYBEANS, AND PRICE, 1960-78

YEAR BEGINNING OCTOBER	SUPPLY					DISAPPEARANCE			SOYBEANS (MEAL EQUIVALENT OF EXPORTS) 2/	PRICE PER TON, BULK, DECATUR	
	PRODUCTION			STOCKS OCTOBER 1 1/	TOTAL	EXPORTS	SHIPMENTS TO U.S. TERRITORIES	DOMESTIC		44 PERCENT PROTEIN	49 OR 50 PERCENT PROTEIN
	TOTAL	FOR-- ANIMAL FEED	FOR-- EDIBLE PROTEIN PRODUCTS								
	1000 TONS									DOLLARS	
1960	9452	---	---	83	9534	599	---	8867	3089	60.61	66.52
1961	10342	---	---	78	10419	1064	---	9262	3637	63.58	69.42
1962	11127	---	---	94	11221	1475	---	9586	4283	71.26	77.15
1963	10609	---	---	159	10768	1479	---	9167	4540	71.01	78.69
1964	11286	---	---	122	11407	2036	23	9242	4890	70.21	79.22
1965	12901	---	---	196	13097	2694	52	10219	5968	81.46	89.61
1966	13463	---	---	132	13614	2657	49	10771	6327	78.82	86.36
1967	13660	---	---	138	13798	2899	60	10693	6416	76.92	84.29
1968	14581	---	---	145	14726	3044	56	11469	6798	74.12	82.46
1969	17596	---	---	157	17753	4035	67	13514	10669	78.45	86.61
1970	18035	---	---	137	18172	4559	61	13406	10286	78.51	84.33
1971	17024	---	---	146	17170	3805	63	13110	9562	90.20	98.20
1972	16709	---	---	192	16900	4745	52	11923	11208	228.99	253.42
1973	19674	N.A.	N.A.	183	19858	5548	36	13766	13170	146.35	160.57
1974	3/16701	16437	265	507	17209	4299	56	12501	10024	130.86	141.26
1975	20754	20395	359	358	21112	5145	61	15552	13134	147.77	157.68
1976	18488	18101	388	355	18843	4559	55	14001	13226	199.80	218.73
1977 4/	22371	21961	410	228	22599	6080	67	16209	17182	163.56	179.45
1978 5/	23750	23325	425	243	23995	6250	75	17325	18000	6/182	
1979 5/											

1/ STOCKS AT PROCESSOR PLANTS. 2/ CALCULATED AT 47.5 POUNDS OF MEAL PER BUSHEL. 3/ IN JANUARY 1975 SOYBEAN CRUSHERS STARTED REPORTING TO CENSUS THE BREAKDOWN OF SOYBEAN MEAL PRODUCTION BETWEEN THAT FOR ANIMAL FEEDS AND FOR EDIBLE PROTEIN PRODUCTS. 4/ PRELIMINARY. 5/ FORECAST. 6/ OCTOBER-JANUARY AVERAGE. N.A.--NOT AVAILABLE.

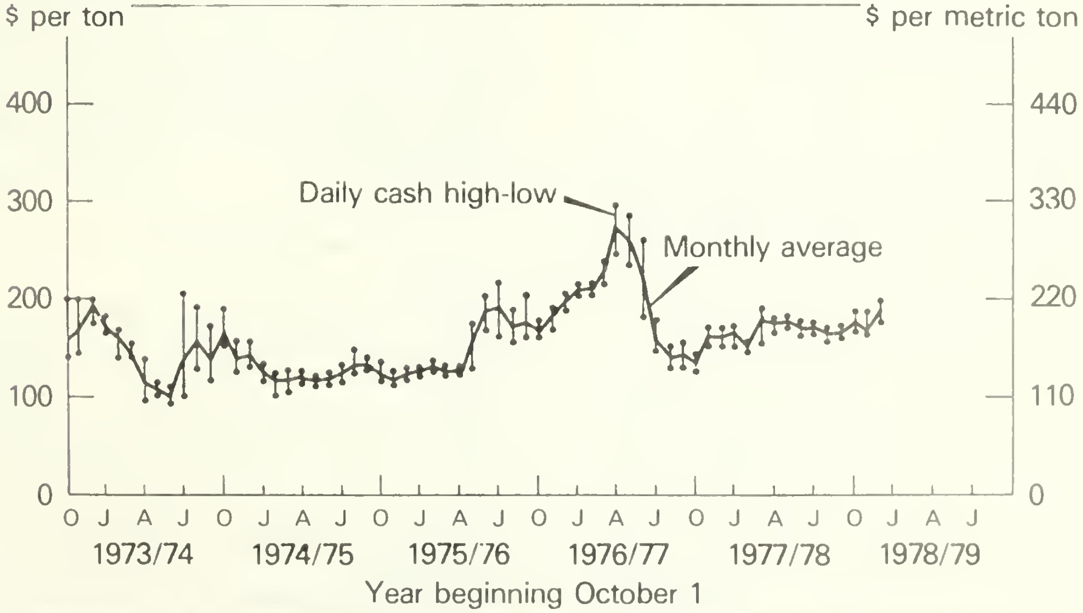
U.S. Soybean Oil Prices, Crude, Decatur



USDA

Neg. ESCS 2510-79 (1)

U.S. Soybean Meal Prices, 44% Protein, Decatur



USDA

Neg. ESCS 2694-79 (1)

soybean meal is forecast to exceed the 1977/78 level of 16.3 million tons by about 1 million tons. The increases in sows farrowing (up 13 percent from a year ago), broiler production (up 9 percent), and cattle on feed (up 9 percent) all point to heavier consumption of high-protein feeds this marketing year.

Feed use of corn and other grains is expected to increase some 6 percent this marketing year which also will stimulate the demand for soybean meal, although corn prices likely will be more competitive. Livestock and poultry feed price ratios continue favorable for heavy feeding per animal.

Soybean meal exports are expected to rise slightly this season from the 6.1 million tons shipped in 1977/78. The decline in the U.S. dollar relative to European currencies and the Japanese yen have strengthened export demand. Over half of our meal exports go to the European Community (EC-9), with Japan and East Europe also ranking as large importers.

The bulk of U.S. soybean meal moves abroad in the form of soybeans rather than the processed commodity. Many countries prefer to process soybeans, and Brazil moves large quantities of soybean meal into the world markets.

Soybean meal prices (44 percent protein, Decatur) have remained fairly stable this marketing year, averaging about $182 per ton compared with $155 during October-January 1977/78. Prices during February-September are forecast to average 5 to 10 percent above the 1978 level of $169 per ton. The strong domestic situation discussed above is the main reason for higher prices in 1978/79.

WORLD OILSEEDS

Output Above Trend

World production of high-protein meals is expected to be well above trend again in 1978/79, increasing some 7 percent to over 84 million metric tons (soybean meal equivalent). Approximately nine-tenths of the 6-million-ton gain will be in soybean meal, with most of the gain produced outside the United States.

Output of fats and oils also is projected to remain above trend in 1978/79, rising about 4 percent above the previous production of 53 million metric tons. The prospective increase is due to larger output of edible vegetable oils that more than offsets a decline in animal fats. Malaysian palm oil production may be almost a fifth above the drought-reduced level of last year. However, Philippine coconut oil production is expected to be off somewhat this year because of dry weather in 1978.

Strong world demand for protein meals and oils in 1978 resulted in a rise of about a tenth in apparent world consumption of both. Increased feeding of tapioca in Europe and the decline of the U.S. dollar in 1977/78 significantly increased demand for soybeans and soybean meal in Europe and Japan. World consumption of both protein meal and edible vegetable oils is expected to increase about in line with production in 1979.

SUNFLOWERSEED

Record U.S. Supply and Use This Season

The 1978/79 sunflowerseed supply is estimated at 1.9 million metric tons, an increase of about two-fifths over last season. Strong export demand for the oilseed variety along with sharply increased domestic use of sunflowerseed oil have boosted prices to producers this year.

Total use of sunflowerseed is estimated at a record 1.8 million tons, a half million tons more than in 1977/78. The export market remains the largest outlet for U.S. sunflowers, accounting for 1.3 million tons this season or about two-thirds of total supply. West Europe, East Europe, Mexico, and Venezuela are major importers.

About 15 mills are processing sunflowerseeds in the United States this season. Two-thirds are cottonseed mills in the South processing sunflowers part-time, while the remaining mills are in Minnesota processing sunflowers from the Red River Valley area. The U.S. crush is estimated at about 0.4 million tons, some 75 percent more than in 1977/78. This volume will produce about 155,000 tons of crude sunflowerseed oil—using an extraction rate of 40 percent.

Nonoil use of sunflowerseeds (bird feed and confectionery) now comprises only about 6 percent of total U.S production.

U.S. Use of Sunflower Oil Doubling This Season

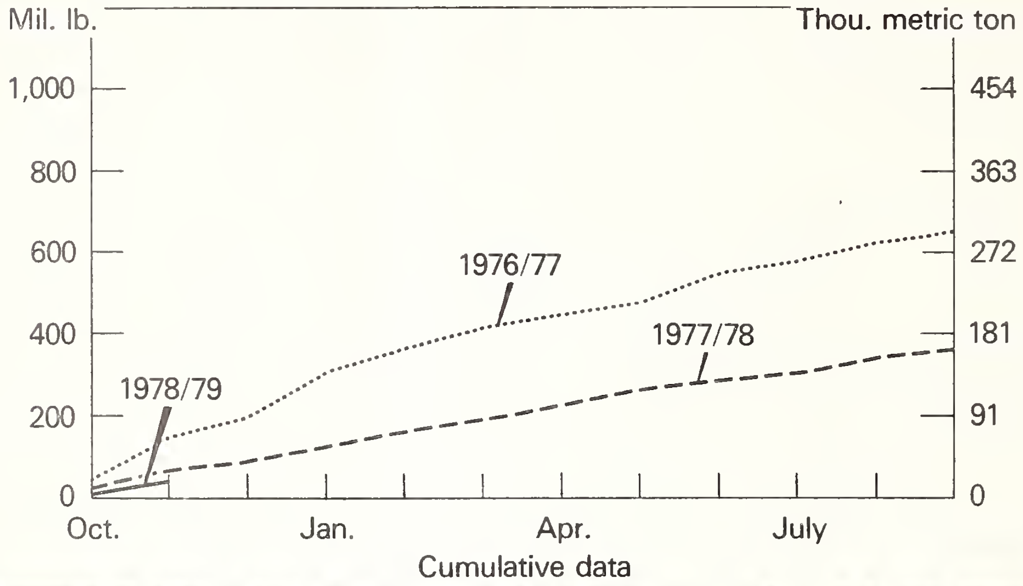
With more food processors now producing and marketing sunflowerseed cooking/salad oils and margarines on a national basis, U.S. use of sunflowerseed oil is expanding to 115,000 tons, roughly double the 54,000 tons apparently consumed in 1977/78. These are estimates since the Bureau of the Census does not include sunflowerseed oil in its monthly survey of fats and oils factory consumption and warehouse stocks report (M20K).

Exports of sunflowerseed oil also are expected to be up in 1978/79, possibly to around 40,000 tons or

TABLE 5.--U.S. SUNFLOWERSEED AND OIL: ESTIMATED SUPPLY AND DISAPPEARANCE, 1977/78 AND 1978/79

ITEM	SUNFLOWERSEED 1977/78	 1978/79	 PERCENT CHANGE
	---Thousand Metric Tons---		---Percent---
Beginning stocks, Sept. 1	23	76	
Production	1,322	1,810	37%
Imports	3	4	
TOTAL SUPPLY	1,348	1,890	40%
Domestic crush	219	385	76%
Non-oil usage	100	110	10%
Planting seed	4	5	
Exports	949	1,305	37%
TOTAL DISAPPEARANCE	1,272	1,805	42%
	---Dollars Per Metric Ton---		
Season average price received by farmers	$229	$227	
	SUNFLOWERSEED OIL		
	---Thousand Metric Tons		---Percent---
Production (Oct.-Sept.)	88	155	76%
Domestic Disappearance	54	115	113%
Exports	34	40	18%
TOTAL DISAPPEARANCE	88	155	
	---Dollars Per Metric Ton---		
Crude, Minneapolis		$705	

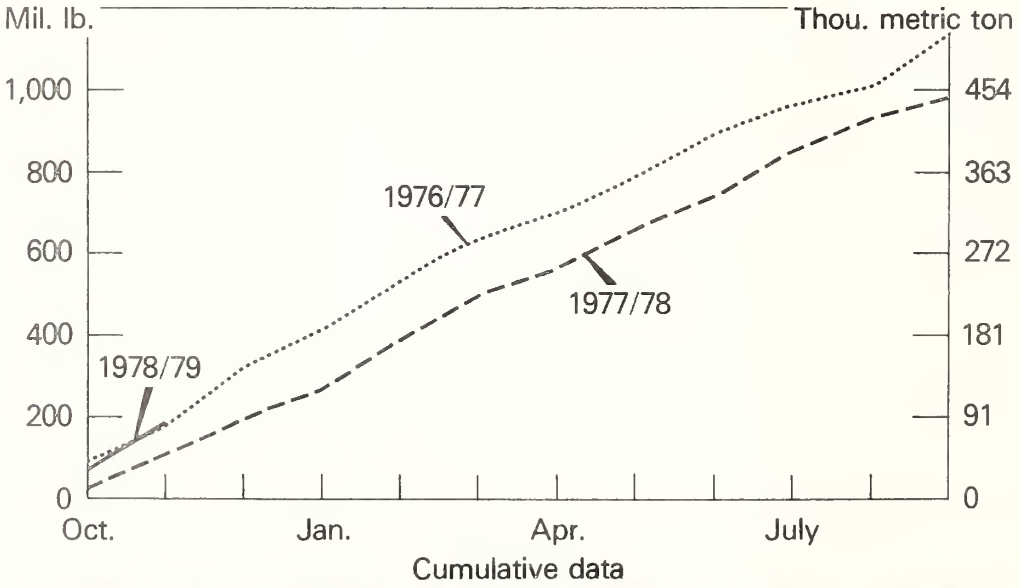
U.S. Palm Oil Imports



USDA

Neg. ESCS 2695-79 (1)

U.S. Coconut Oil Imports



USDA

Neg. ESCS 2725-79 (1)

a fifth more than last year. Nearly 90 percent of the exports are crude oil and the remainder mainly salad oil. Western Europe is the major market.

Prices for sunflowerseed oil (crude, Minneapolis) currently are averaging around $705 per metric ton, well above year-earlier levels.

PALM OIL

Imports Lag But May Pick Up

U.S. imports of palm oil during the 1978/79 marketing year may increase only moderately from last season's level of 362 million pounds, possibly totaling around 400 million pounds. However, imports in October-December, at 48 million pounds, were 45 percent below the same 3 months of 1977.

A rebound in palm oil production in Malaysia (the world's leading producer-exporter) from the drought-reduced output of last year could encourage expanded U.S. imports, assuming prices become competitive with domestic soybean oil. However, complete recovery from the drought is not expected, which could limit palm oil production. West Malaysian palm oil production in 1979 is estimated at 1.9 million tons compared with 1.6 million last year. Malaysia exports over 90 percent of its palm oil output.

Palm oil prices (c.i.f., U.S. ports) during October-January averaged 31 cents per pound or 9 cents above the same 1977/78 period.

COCONUT OIL

Prices Sharply Higher

Coconut oil prices (crude, Pacific Coast) averaged 43 cents per pound during October-January, about 70 percent higher than the 25-cent level the year before. This high price is due to reduced Philippine output resulting from drought in 1978.

U.S. imports are expected to decline about a tenth from the 1.0-billion-pound level of 1977/78. This assumes a continuing high price for coconut oil along with reduced supplies in the Philippines. U.S. imports during October-December 1978 totaled 241 million pounds, compared with 198 million the year before.

COTTONSEED

Crush Up; Stocks Down

The 1978/79 cottonseed supply totals 5.0 million tons, some 14 percent less than the previous season.

The season's crush is estimated at 4 million tons, compared with 4.3 million in 1977/78. Larger carryover stocks of seed last August 1 are helping to maintain crushings. During August-December 1978, about 1.7 million tons of seed had been crushed, compared with 1.6 million in 1977. Cottonseed stocks at crushing mills are low, however, totaling only 2.2 million tons on December 1, 1978, compared with 3.2 million on the same date in 1977. This means a shorter crush season for the mills.

Cottonseed prices are higher this season, reflecting the smaller crop and generally higher prices for most other oilseeds. For the season, prices received by farmers averaged $115 per ton, compared with $70 in 1977/78. Seed prices this season more than covered farmers' ginning costs, whereas last season they did not.

COTTONSEED OIL

Supply Down; Prices Strong

Cottonseed oil supplies for 1978/79 total around 1.4 billion pounds, or about a tenth below last season. Domestic use may approximate the 0.7 billion pounds of last season. However, large supplies of competing oils such as soybean and sunflower will provide stiff competition. These oils compete as ingredients in the manufacture of shortening, margarine, and cooking/salad oils.

Cottonseed oil exports are expected to fall below the 0.7 billion pounds of 1977/78. Although world supplies of vegetable oils are larger, U.S. cottonseed oil is preferred in Western Europe, South America, and Egypt, and should remain competitive in these areas.

Cottonseed oil prices (crude, Valley) are strong, averaging 29 cents per pound so far this season compared with 21 cents the year before. With smaller production in prospect over the rest of the season, prices likely will continue at relatively high levels.

COTTONSEED MEAL

Feed Demand Strong

Cottonseed meal production totals an estimated 1.8 million tons in 1978/79 or about a tenth below a year earlier. Domestic demand continues strong with cattle on feed up a tenth and good feeding rates per animal, bolstered by favorable feeding ratios.

Cottonseed meal prices (41 percent protein, Memphis) are strong, averaging $164 per ton or about $29 above 1977/78. With smaller cottonseed

TABLE 6--FOOD FATS AND OILS: SUPPLY, DISAPPEARANCE, AND PER CAPITA DISAPPEARANCE, 1969-78

ITEM	YEAR BEGINNING OCTOBER									
	1969	1970	1971	1972	1973	1974	1975	1976	1977 1/	1978 2/
	MILLION POUNDS									
STOCKS, OCTOBER 1										
BUTTER	155	171	222	178	94	106	40	68	203	267
LARD	56	60	77	44	28	48	23	34	32	35
TALLOW, EDIBLE	26	37	63	36	19	32	24	59	33	42
COCONUT OIL	108	102	108	111	114	122	107	127	137	145
CORN OIL	71	60	58	70	57	68	52	41	46	73
COTTONSEED OIL	377	121	94	114	114	110	136	105	79	85
SOYBEAN OIL	415	543	773	785	516	794	561	1,251	767	729
PALM OIL	28	20	36	93	60	88	127	138	131	74
PALM KERNEL OIL	20	15	26	24	20	26	20	27	46	18
PEANUT OIL	17	12	24	18	18	22	44	199	171	33
SAFFLOWER OIL	61	29	29	39	31	8	25	44	25	21
SUNFLOWER OIL	---	---	---	---	---	---	---	20	---	---
SUB-TOTAL	1,334	1,171	1,510	1,513	1,071	1,422	1,158	2,112	1,670	1,522
FINISHED PRODUCTS 3/	217	236	236	254	206	247	213	271	254	306
TOTAL FOOD FATS AND OILS	1,551	1,407	1,746	1,767	1,277	1,669	1,371	2,383	1,924	1,828
IMPORTS										
BUTTER	2	2	2	2	56	2	2	2	1	1
TALLOW, EDIBLE	4/	4/	4/	1	4/	4/	4/	4/	4/	---
OLIVE OIL	63	67	67	58	49	46	63	56	62	60
COCONUT OIL	562	606	634	687	563	673	1,248	1,115	980	900
CORN OIL	3	1	---	4/	1	2	1	10	3	5
COTTONSEED OIL	4/	4/	---	4/	4/	---	4/	---	---	---
PALM OIL	122	207	440	363	349	757	933	661	361	400
PALM KERNEL OIL	80	105	90	102	126	160	158	157	123	135
PEANUT OIL	4/	4/	4/	4/	1	4/	2	4/	4/	---
SESAME OIL	2	2	2	2	3	2	3	3	3	3
SUNFLOWER OIL	---	---	---	---	---	1	2	---	---	---
TOTAL	834	990	1,235	1,214	1,147	1,643	2,413	2,006	1,533	1,504
PRODUCTION										
BUTTER	1,128	1,148	1,121	956	927	995	946	1,078	1,040	925
LARD	1,810	2,018	1,646	1,285	1,324	1,094	982	1,056	999	975
TALLOW, EDIBLE	566	550	523	481	556	557	527	532	795	825
OLEO OIL & STEARINE 5/	11	4	5	8	9	11	7	8	5	5
COCONUT OIL	298	205	336	310	93	---	---	---	---	---
CORN OIL	474	485	499	523	528	465	644	669	695	735
COTTONSEED OIL	1,251	1,235	1,308	1,564	1,552	1,335	920	1,198	1,453	1,250
SOYBEAN OIL	7,904	8,265	7,892	7,501	8,995	7,375	9,630	8,578	10,291	10,800
PEANUT OIL	180	266	265	273	195	236	494	312	140	175
SAFFLOWER OIL (ESTIMATE)	100	120	140	150	100	115	100	75	95	95
SUNFLOWER OIL	---	---	---	---	---	92	110	37	195	350
SUB-TOTAL	13,723	14,297	13,735	13,051	14,278	12,275	14,360	13,542	15,709	16,135
OILSEEDS (OIL EQUIVALENT OF EXPORTS)	5,007	4,857	4,556	5,299	6,221	4,887	6,445	6,453	8,762	9,480
TOTAL SUPPLY	21,114	21,550	21,272	21,332	22,923	20,474	24,589	24,383	27,928	28,947
EXPORTS AND SHIPMENTS										
BUTTER	8	27	124	18	8	4	3	4	2	2
LARD	405	382	220	132	180	147	185	249	174	175
TALLOW, EDIBLE	11	6	5	20	43	17	22	23	18	25
OLEO OIL & STEARINE	11	4	5	8	9	11	7	8	5	5
COCONUT OIL	9	17	20	19	17	14	53	31	33	25
CORN OIL	34	43	49	44	68	84	98	93	116	125
COTTONSEED OIL	454	373	453	584	565	686	500	691	758	600
PALM OIL	8	8	32	40	24	27	39	57	52	50
PEANUT OIL	34	60	71	111	42	40	104	74	99	75
PROCESSED FOOD OILS 6/	63	67	70	67	91	77	101	88	75	75
SAFFLOWER OIL (ESTIMATE)	25	20	40	40	25	25	25	15	25	25
SOYBEAN OIL	1,449	1,782	1,440	1,086	1,461	1,090	1,034	1,608	2,137	1,875
SUNFLOWER OIL	---	---	---	---	---	9	10	31	75	90
SUB-TOTAL	2,512	2,790	2,529	2,171	2,533	2,231	2,181	2,972	3,570	3,147
OILSEED (OIL EQUIVALENT)										
COTTONSEED	9	12	1	3	17	2	26	4	15	5
SOYBEANS	4,941	4,764	4,429	5,191	6,100	4,643	6,083	6,126	7,958	8,400
PEANUTS (FOR CRUSHING ABROAD)	12	58	71	56	68	54	---	1	---	---
SAFFLOWER	45	23	55	49	36	38	26	22	28	25
SUNFLOWER SEED	---	---	---	---	---	150	310	300	760	1,050
SUB-TOTAL	5,007	4,857	4,556	5,299	6,221	4,887	6,445	6,453	8,762	9,480
TOTAL EXPORTS	7,519	7,647	7,085	7,470	8,754	7,118	8,626	9,425	12,332	12,627
DOMESTIC DISAPPEARANCE										
BUTTER	1,106	1,074	1,043	1,024	964	1,059	917	941	975	950
LARD	1,425	1,645	1,480	1,185	1,150	989	803	814	822	800
TALLOW, EDIBLE	544	518	546	479	500	548	470	534	769	800
COCONUT OIL	855	644	612	664	539	675	1,175	1,075	939	875
CORN OIL	454	445	439	492	450	399	559	581	556	625
COTTONSEED OIL	1,052	890	834	980	991	622	451	532	689	650
SOYBEAN OIL	6,328	6,253	6,439	6,685	7,255	6,518	7,906	7,454	8,192	8,625
OLIVE OIL	63	67	67	58	49	46	63	56	62	60
PALM OIL	122	182	351	356	294	692	883	611	367	350
PALM KERNEL OIL	85	94	92	107	120	165	151	138	151	135
PEANUT OIL	151	193	200	162	150	175	237	265	179	100
SAFFLOWER OIL (ESTIMATE)	107	100	90	118	98	75	75	70	74	70
SESAME OIL	2	2	2	2	3	2	3	3	3	3
SUNFLOWER OIL	---	---	---	---	---	83	80	26	120	250
PROCESSED FOOD OILS 6/	-63	-67	-70	-67	-91	-77	-101	-88	-75	-75
TOTAL	12,231	12,041	12,124	12,244	12,474	11,970	13,671	13,013	13,824	14,218
TOTAL (CALCULATED NET) 7/	12,211	12,041	12,105	12,292	12,433	12,003	13,614	13,030		
TOTAL USE FOR FOOD 8/	10,988	11,057	11,312	11,501	11,597	11,340	12,172	11,711	12,500	
PER CAPITA DISAPPEARANCE	POUNDS									
BUTTER (FAT CONTENT)	4.4	4.2	4.0	3.9	3.7	4.0	3.4	3.5		
MARGARINE (FAT CONTENT)	8.7	8.7	8.9	9.0	9.0	8.8	9.6	9.3		
LARD (DIRECT USE)	4.5	4.6	3.7	3.5	3.2	3.0	2.8	2.3		
BAKING AND FRYING FATS	17.6	17.0	17.3	17.3	17.3	16.6	18.3	17.2		
SALAD AND COOKING OILS	15.0	15.6	16.7	17.4	18.5	17.8	19.5	19.0		
OTHER EDIBLE USES	2.6	2.3	2.7	2.7	2.1	2.0	2.1	1.9		
TOTAL (FAT CONTENT)	52.6	52.5	53.3	53.8	53.9	52.2	55.8	53.3	56.5	56-57

1/ PRELIMINARY. 2/ FORECAST. 3/ SHORTENING, MARGARINE (FAT CONTENT), AND SALAD AND COOKING OILS. 4/ LESS THAN 500,000 POUNDS. 5/ REPRESENTS EXPORTS ONLY; PRODUCTION DATA ARE NOT AVAILABLE. 6/ INCLUDES EXPORTS OF PROCESSED FOOD OILS NOT CLASSIFIED BY KIND, SHORTENING AND OTHER SECONDARY FATS. 7/ ADJUSTED TO REFLECT CHANGES IN STOCKS OF FINISHED PRODUCTS. 8/ EXCLUDES FOOD FATS AND OILS USED FOR NON-FOOD PURPOSES.

meal supplies expected over the rest of the season, prices likely will continue strong and well above year-earlier levels.

LARD

Output Off Slightly; May Pick Up

Lard production during 1978/79 is estimated at about 1 billion pounds, not much different from the previous year. Commercial pork production during this period may be up 6 to 7 percent but lard yields likely will be lower. During October-December 1978, lard output totaled 275 million pounds, about the same as in 1977.

Domestic use of lard likely will total near the 0.8 billion pounds of 1977/78 and exports (including shipments to Puerto Rico) will approximate 0.2 billion pounds.

Lard prices (tanks, loose, Chicago) averaged 24 cents per pound during October-January compared with 20 cents a year earlier. Lard prices have been competitive with other food fats and oils, averaging below soybean, cottonseed, and palm oils.

PEANUTS

Edible Use Up; Exports Strong

U.S. peanut supplies for the 1978/79 marketing year total 4½ billion pounds, about 4 percent above last season. Edible use of peanuts is expected to increase 3 percent to 1.9 billion pounds. Domestic crushing of peanuts probably will increase only slightly from last year's 0.5 billion pounds because strong overseas demand is siphoning off our excess supplies. U.S. peanut exports soared to a record 1.0 billion pounds last season and in 1978/79 may be nearly as large and the second highest export volume on record.

As a result of strong domestic and foreign demand for peanuts this season, the CCC took only about a tenth of the 1978 crop under loan and some of this has already been redeemed or sold.

Prices received by farmers for 1978-crop peanuts averaged 21.3 cents per pound, near the support rate and about the same as year before.

1979 - Crop Peanut Poundage Quota Lowered 5 Percent

Under current legislation, the minimum national acreage allotment is set at 1,614,000 acres but the minimum poundage quota is scheduled to be reduced each year through 1981. On December 1, USDA announced the 1979-crop national poundage quota at 1,596,000 tons, which is 5 percent below the 1978 quota of 1,680,000 tons.

Loan rates for 1979-crop quota and additional peanuts will be announced no later than February 15. For 1978, quota peanuts were supported at $420 per ton and additional peanuts at $250 per ton.

FLAXSEED

Smaller Supply Brings Higher Prices

The 1978/79 flaxseed supply totals 16 million bushels, nearly 2 million below last season.

Crushings during July-December 1978 totaled an estimated 7½ million bushels, about 1 million above the year-earlier period. The smaller flaxseed supply likely will limit total 1978/79 crushings to about 12 million bushels—these have ranged between 10 and 12 million bushels in recent years.

Flaxseed prices received by farmers so far this marketing year have averaged $5.20 per bushel, compared with $4.50 in the same period of 1977. Prices likely will continue firm as demand remains relatively steady for the reduced supplies, and smaller plantings loom ahead in 1979.

U.S. use of linseed oil in 1978/79 likely will total near the 225-million-pound level of last year. Most of this oil is used in the manufacture of paints and varnishes, the major single domestic outlet for linseed oil. Linseed oil prices (raw, Minneapolis) so far this season are averaging 24 cents per pound, about the same as the year before.

TALLOW

1979 Output May Decline

Edible and inedible tallow and grease production in 1979 may decline slightly from the 6.8-billion-pound level of 1978. Domestic use is estimated at 4.0 billion pounds and exports at around 2.8 billion. Inedible tallow prices are averaging around 20 cents per pound, about 3 cents above a year ago.

TABLE 7--WHOLESALE AND RETAIL PRICES PER POUND FOR FATS AND OILS, BY MONTHS

ITEM	1978 JUNE	JULY	AUGUST	SEPT	OCTOBER	NOVEMBER
	CENTS					
WHOLESALE						
BUTTER, CREAMERY, GRADE A, (92- AND 93-SCORE) BULK, NEW YORK	110.2	111.6	122.6	122.5	123.0	128.7
BUTTER, CREAMERY, GRADE A, (92-SCORE) BULK, CHICAGO	106.7	106.7	106.7	106.7	106.7	106.7
CASTOR OIL, NO.1, BRAZILIAN, TANKS, IMPORTED, NEW YORK	40.3	39.4	37.9	37.9	37.9	37.9
COCONUT OIL, CRUDE, TANK CARS, PACIFIC COAST 1/	32.4	32.9	32.3	39.2	41.6	42.6
COCONUT OIL, CRUDE, TANKS, F.O.B., NEW YORK	33.3	33.9	33.6	39.5	42.7	44.4
COD OIL, BULK, F.O.B., GLOUCESTER, MASSACHUSETTS	19.0	20.1	23.5	23.5	23.5	23.5
CODLIVER OIL. NF, DRUMS, NEW YORK	69.0	69.0	69.0	69.0	69.0	69.0
CORN OIL, CRUDE, TANK CARS, F.O.B., DECATUR	33.0	33.3	31.5	35.5	34.0	35.0
CORN OIL, REFINED, TANKS, NEW YORK	40.9	39.5	---	---	---	---
COTTONSEED OIL, CRUDE, TANK CARS, F.O.B., SOUTHEAST MILLS	26.5	27.5	---	---	---	27.3
COTTONSEED OIL, CRUDE, TANK CARS, F.O.B., VALLEY	27.0	27.5	28.9	33.3	29.3	28.2
COTTONSEED OIL, REFINED, TANKS, NEW YORK	33.6	34.4	36.1	39.5	34.6	33.7
DEGRAS, LINOLIN TECHNICAL, DRUMS, NEW YORK	64.0	64.0	64.0	64.0	64.0	64.0
FISH OIL, REFINED, ALKALI, TANKS, NEW YORK	23.0	23.8	27.0	27.0	27.0	27.0
GLYCERINE, SYNTHETIC, REFINED, 99.5 PERCENT, TANKS, DELIVERED, NEW YORK	51.0	51.0	49.3	49.3	47.6	48.5
GLYCERINE, NATURAL, REFINED, U.S.P., 99 PERCENT, TANKS, DELIVERED, NEW YORK	49.3	49.3	---	---	---	---
GREASE, A WHITE, TANK CARS, DELIVERED, CHICAGO	18.8	21.3	19.3	21.0	20.5	22.4
GREASE, B WHITE, DELIVERED, CHICAGO	17.8	17.8	17.1	17.8	18.5	18.9
GREASE, YELLOW, DELIVERED, CHICAGO	15.8	16.3	15.0	16.3	16.8	18.1
GREASE, WHITE, CHOICE, TANKS, NEW YORK	19.4	19.2	19.6	20.3	21.4	21.4
LARD OIL, EXTRA NO. 1, DRUMS, CHICAGO	27.0	27.0	---	---	---	---
LARD, LOOSE, TANK CARS, CHICAGO	22.5	23.3	22.3	26.0	24.5	24.5
LARD, PRIME STEAM, TIERCES, CHICAGO	22.7	22.6	24.1	25.2	24.6	24.6
LARD, REFINED, 1 AND 2-POUND PRINTS, CHICAGO	32.0	32.5	35.0	38.5	37.0	39.5
LECITHIN, EDIBLE, TECHNICAL, BLEACHED, DRUMS, WORKS	29.5	29.5	29.5	29.5	29.5	29.5
LINSEED OIL, RAW, TANK CARS, MINNEAPOLIS	22.0	22.5	24.0	24.0	24.0	24.0
LINSEED OIL, RAW, TANKS, NEW YORK	21.8	22.4	23.8	26.5	26.5	26.5
MARGARINE, COLORED, DELIVERED, EASTERN UNITED STATES	55.2	55.2	52.5	52.3	52.1	53.3
MARGARINE, YELLOW, QUARTERS, F.O.B., CHICAGO	40.6	37.8	37.3	41.6	41.3	40.1
MARGARINE, WHITE, DOMESTIC VEGETABLE, CHICAGO	47.4	46.0	45.7	48.2	47.8	48.4
MENHADEN OIL. CRUDE, TANKS, F.O.B., BALTIMORE	15.0	15.0	15.0	15.0	15.0	15.0
MENHADEN OIL, LIGHT PRESSED, TANKS, NEW YORK	20.5	21.2	---	---	---	---
OITICICA OIL, DRUMS, F.O.B., NEW YORK	72.0	71.3	69.0	69.0	69.0	69.0
OITICICA OIL. TANKS, NEW YORK	75.5	75.4	75.0	76.5	76.5	76.5
OLIVE OIL, IMPORTED, EDIBLE, DRUMS, NEW YORK	86.7	86.7	85.3	83.3	83.3	83.3
PALM KERNEL OIL, CIF, BULK, U.S. PORTS	36.9	36.9	36.9	36.9	36.9	36.9
PALM OIL, CIF, BULK, U.S. PORTS	30.6	31.2	28.5	29.8	30.5	30.4
PEANUT OIL, CRUDE, TANK CARS, F.O.B., SOUTHEAST MILLS	42.7	39.1	40.1	42.7	45.1	49.7
PEANUT OIL, REFINED, TANKS, NEW YORK	47.1	44.5	44.9	48.6	51.6	56.0
RAPESEED OIL. REFINED, DENATURED, TANKS, NEW YORK	39.0	39.0	39.0	39.0	39.0	39.0
SAFFLOWER OIL, TANKS, NEW YORK	41.5	41.5	41.0	41.0	41.0	41.0
SAFFLOWER OIL, EDIBLE, DRUMS, NEW YORK	52.0	52.0	52.0	52.0	52.0	52.0
SESAME OIL, REFINED, DRUMS, NEW YORK	87.5	87.5	87.5	87.5	87.5	87.5
SHORTENING, ALL VEGETABLE, HYDROGENATED, 440-POUND DRUMS, NEW YORK	42.3	42.3	41.0	43.3	42.0	40.0
SOYBEAN OIL, CRUDE, TANK CARS, F.O.B., DECATUR	26.9	25.9	26.3	27.8	26.7	23.7
SOYBEAN OIL, REFINED, TANKS, NEW YORK	31.8	31.3	31.0	32.7	32.1	33.5
TALL OIL, CRUDE, TANKS, WORKS	7.8	7.8	7.5	7.5	7.5	7.5
TALLOW, EDIBLE, LOOSE, CHICAGO	24.0	23.5	23.3	24.5	25.0	24.5
TALLOW, INEDIBLE, PACKERS' PRIME, C.A.F., DELIVERED, CHICAGO	18.2	18.9	18.7	19.5	19.8	20.1
TALLOW, INEDIBLE, BLEACHABLE FANCY, DELIVERED, CHICAGO	20.7	20.1	20.5	20.9	22.0	22.2
TALLOW, INEDIBLE, NO. 1, DELIVERED, CHICAGO	16.0	16.3	16.3	16.3	17.3	18.1
TUNG OIL, IMPORTED, DRUMS, F.O.B., NEW YORK	100.0	100.0	87.5	87.5	87.5	---
TUNG OIL, IMPORTED, TANKS, NEW YORK	118.5	118.5	118.5	118.5	118.5	118.5
RETAIL 2/						
BUTTER	141.3	3/	---	---	---	---
COOKING AND SALAD OILS	78.4		---	---	---	---
MARGARINE	63.6		---	---	---	---
PEANUT BUTTER	100.8		---	---	---	---
SALAD DRESSING (ITALIAN)	131.8		---	---	---	---
SHORTENING	57.1		---	---	---	---

1/ INCLUDES 1 CENT IMPORT DUTY.
2/ LEADING CITIES.
3/ RETAIL PRICES DISCONTINUED.

TABLE 8---INDEX NUMBERS OF WHOLESALE PRICES OF FATS AND OILS, BY MONTHS, 1967 = 100

ITEM	1978								
	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
WHOLESALE									
ALL FATS AND OILS	289	303	284	285	295	287	321	309	310
ALL FATS AND OILS, EXCEPT BUTTER	338	355	331	332	344	331	374	358	359
GROUP BY ORIGIN:									
ANIMAL FATS	244	260	237	240	249	241	272	262	267
VEGETABLE OILS, DOMESTIC	209	206	220	209	213	211	224	214	198
VEGETABLE OILS, FOREIGN	262	238	242	248	263	259	305	313	328
GROUP BY USE:									
BUTTER	155	155	160	160	160	176	175	176	184
LARD	304	328	282	288	298	286	333	314	314
LARD, REFINED	235	258	225	236	239	258	283	272	291
FOOD FATS OTHER THAN BUTTER	234	247	224	225	231	224	257	243	239
FOOD FATS OTHER THAN BUTTER AND LARD	227	166	237	226	231	228	249	239	225
ALL EDIBLE FATS AND OILS	213	224	205	205	211	207	233	223	221
SOAP FATS	299	306	322	321	345	320	348	349	373
DRYING OILS	170	174	174	180	185	185	185	184	180
OTHER INDUSTRIAL	266	270	272	275	282	---	---	---	---
ALL INDUSTRIAL	277	284	296	297	313	298	320	321	340
CRUDE	224	220	232	220	225	222	243	233	219
EDIBLE VEGETABLE OILS, GROUPED BY DEGREE OF PROCESSING:									
END PRODUCTS	230	222	229	225	226	227	253	232	232
REFINED	207	217	220	218	218	209	213	212	210
MARGARINE	201	215	215	215	215	205	204	203	208
SHORTENING, 3-POUND TIN	209	227	233	233	233	233	233	233	233
SHORTENING, 440-POUND DRUM	200	201	211	204	202	198	208	202	193
RETAIL 1/									
EDIBLE FATS AND OILS	197	200	206	214	2/	---	---	---	---
MARGARINE	215	217	229	235		---	---	---	---
SALAD DRESSING, ITALIAN STYLE	170	171	170	176		---	---	---	---
SALAD AND COOKING OIL	206	211	219	230		---	---	---	---

1/ CPI SEASONALLY ADJUSTED SERIES. 2/ RETAIL PRICE INDEXES DISCONTINUED.

SOURCE: ALL INDEXES EXCEPT "OTHER INDUSTRIAL" FROM BUREAU OF LABOR STATISTICS.

TABLE 9--PRICES RECEIVED BY FARMERS AND PRICES AT TERMINAL MARKETS FOR SPECIFIED OIL-BEARING MATERIALS AND OILMEALS, BY MONTHS

ITEM	UNIT	1978					
		JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
OILSEEDS							
COTTONSEED, UNITED STATES AVERAGE	SHORT TON	---	---	84.00	94.40	110.00	113.00
FLAXSEED, NO. 1, MINNEAPOLIS	BUSHEL	6.25	5.22	5.47	5.76	5.70	5.99
FLAXSEED, UNITED STATES AVERAGE	BUSHEL	5.66	4.75	4.94	5.27	5.13	5.48
PEANUTS, UNITED STATES AVERAGE (FARMERS' STOCK)	100 LB.	---	---	21.20	21.20	21.50	21.10
PEANUTS, VIRGINIA NO. 1, SHELLED, VIRGINIA-NORTH CAROLINA 1/	100 LB.	33.30	33.00	32.67	32.00	31.88	31.80
PEANUTS, RUNNERS NO. 1, SHELLED, SOUTHEAST 1/	100 LB.	---	---	---	---	---	32.17
PEANUTS, SPANISH NO. 1, SHELLED, SOUTHEAST 1/	100 LB.	---	34.88	---	---	38.50	---
PEANUTS, SPANISH NO. 1, SHELLED, SOUTHWEST 1/	100 LB.	42.20	36.60	38.40	38.30	38.50	38.50
SOYBEANS, NO. 1, YELLOW, CHICAGO	BUSHEL	6.79	6.54	6.43	6.47	6.76	6.66
SOYBEANS, NO. 1, YELLOW, ILLINOIS COUNTRY SHIPPING POINTS	BUSHEL	6.76	6.62	6.47	6.42	6.72	6.68
SOYBEANS, UNITED STATES AVERAGE	BUSHEL	6.69	6.39	6.21	6.19	6.26	6.31
OILMEALS (BULK)							
COTTONSEED MEAL, 41 PERCENT PROTEIN, MEMPHIS	SHORT TON	127.50	124.40	149.00	162.00	164.00	166.25
COTTONSEED MEAL, 41 PERCENT PROTEIN, ATLANTA	SHORT TON	143.50	141.50	162.20	178.25	176.60	181.40
COTTONSEED MEAL, 41 PERCENT PROTEIN, FORT WORTH	SHORT TON	132.50	132.50	147.50	160.00	173.00	184.40
FISH MEAL, 65 PERCENT PROTEIN, BAGGED, EAST COAST	SHORT TON	357.50	330.00	---	---	370.00	368.75
FISH MEAL, 65 PERCENT PROTEIN, BULK, LOS ANGELES	SHORT TON	---	---	---	---	---	---
LINSEED MEAL, 34 PERCENT PROTEIN, MINNEAPOLIS	SHORT TON	135.50	131.75	131.20	136.25	148.20	155.50
PEANUT MEAL, 50 PERCENT PROTEIN, F.O.B. SOUTHEASTERN MILLS	SHORT TON	157.50	155.00	156.00	160.00	---	---
SAFFLOWER MEAL, 20 PERCENT SOLVENT, SAN FRANCISCO	SHORT TON	75.00	73.75	69.00	66.25	75.40	88.00
SOYBEAN MEAL, 44 PERCENT PROTEIN, CHICAGO	SHORT TON	180.80	183.10	174.10	175.40	188.40	188.70
SOYBEAN MEAL, 44 PERCENT PROTEIN, DECATUR	SHORT TON	169.75	172.00	162.90	163.90	176.80	177.10
SOYBEAN MEAL, 44 PERCENT PROTEIN, ATLANTA	SHORT TON	188.00	188.00	181.80	179.70	191.60	188.80
SOYBEAN MEAL, 44 PERCENT PROTEIN, MEMPHIS	SHORT TON	177.50	174.80	168.70	172.50	188.60	182.90
SOYBEAN MEAL, 49-50 PERCENT PROTEIN, DECATUR	SHORT TON	187.10	187.25	178.20	178.25	191.70	189.50
SOYBEAN MEAL, 49-50 PERCENT PROTEIN, MEMPHIS	SHORT TON	199.30	197.40	188.90	188.70	203.00	200.10
SOYBEAN MEAL, 49-50 PERCENT PROTEIN, ATLANTA	SHORT TON	205.10	204.20	194.40	194.20	205.20	204.30
OTHER FEEDS							
CORN GLUTEN MEAL, 60 PERCENT PROTEIN, CHICAGO	SHORT TON	213.75	201.75	216.00	232.75	249.20	243.75
MEAT AND BONE MEAL, 50 PERCENT PROTEIN, CHICAGO	SHORT TON	202.50	200.60	195.50	211.25	229.00	223.75
UREA, 45 PERCENT N., FEED GRADE, BULK, DLVD EAST	SHORT TON	167.50	167.50	167.50	167.50	167.50	167.50

1/ THIS PRICE APPLIES TO PEANUTS FOR EDIBLE USES.

SOURCES: COMPILED FROM CHEMICAL MARKET REPORTER, WALL STREET JOURNAL, FEEDSTUFFS, REPORTS OF THE STATISTICAL REPORTING SERVICE, AND AGRICULTURAL MARKETING SERVICE.

THE ECONOMIC FEASIBILITY OF PROCESSING SOYBEANS AT WEST COAST LOCATIONS

By Paul D. Velde[1]

ABSTRACT: The economic feasibility of establishing "new" processing plants exclusive to soybeans at alternative West Coast locations was analyzed. A multi-base-point pricing scheme was used to determine the minimum soybean price that could be paid by soybean processors. Profit margins of soybean processors were determined based on alternative soybean origins, transportation rates, processing plant sizes, and destinations. All profit margins to processing soybeans at West Coast locations were negative.

KEYWORDS: Soybeans; processing; economic feasibility.

There are no facilities that process only soybeans west of the Rocky Mountains, despite increasing demand for soybean products. Users have questioned whether such facilities would result in lower prices for soybean meal and soybean oil on the West Coast. Soybeans, soybean meal, and soybean oil are exported through West Coast seaports, which could provide advantageous locations for processing plants. New soybean production on the West Coast could provide a local source of soybeans for the processing plants.

This study analyzes the economic feasibility of establishing a soybean processing plant at alternative West Coast locations. These alternatives were evaluated utilizing a multi-base-point pricing scheme to determine the minimum soybean price that could be paid by soybean processors on the West Coast.

Economic Theory

Economic theory suggests that the price of a commodity and its products at a given location should not exceed the costs of transporting and/or processing them from another location. The boundary of a market is determined by the price of the commodity plus the cost of transportation minus the cost of storage. Processing transforms the commodity, adding cost, and also value, to one or more products. Processing plant size may affect the costs of processing. Depending upon the percent waste and relative transportation costs between raw material and processed products, a locational advantage is established for the processing plant. The questions to be answered are: "Will processing be more economical at the origin or at the destination?" "Are economies of size significant to the optimum location?"

Nature of the Soybean Industry

Prices of soybeans, soybean meal, and soybean oil are determined by the interaction of basic demand and supply forces. The demand for soybean oil is determined in the U.S. and world fats and oils markets, and the demand for soybean meal is determined in the feed-livestock market. The U.S. supply of soybeans is determined by carry-in stocks and production. The total demand for soybeans is the composite of the demands for export soybeans, domestic crushing, seed, and carry-out stocks.

Export soybean demand primarily is a derived demand from foreign processors of soybeans, although some whole soybeans are utilized in Asia. Crushers' demand for soybeans arises from the selling of the joint products, both domestically and

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TABLE 10--SOYBEAN PRICES AT SOME MAJOR MIDWEST AND SOUTHERN MARKETS, CROP YEAR 1977-78

MARKET	PRICES	
	DOLLARS	
	PER BUSHEL	PER TON
DECATUR, ILLINOIS	6.14	204.65
MINNEAPOLIS, MINNESOTA	6.00	199.98
KANSAS CITY, MISSOURI	6.07	202.31
MEMPHIS, TENNESSEE	6.22	207.31

FEED MARKET NEWS, AGRICULTURAL MARKETING SERVICE.

TABLE 11--SINGLE CAR RAIL RATES FROM MIDWEST AND SOUTHERN MARKETS TO WEST COAST LOCATIONS

ORIGIN	DESTINATION	SOYBEANS 1/	SOYBEAN MEAL 1/	SOYBEAN OIL 2/	CRUDE SOYBEAN OIL 3/
		DOLLARS PER TON			
DECATUR, ILLINOIS	LOS ANGELES	49.50	49.50	73.40	40.20
	SAN FRANCISCO				
	BAKERSFIELD				
	PORTLAND				
KANSAS CITY, MO	LOS ANGELES	39.40	39.40	73.40	40.20
	SAN FRANCISCO				
	BAKERSFIELD				
	PORTLAND				
MINNEAPOLIS, MINNESOTA	LOS ANGELES	43.30	43.30	73.40	40.20
	SAN FRANCISCO				
	BAKERSFIELD				
	PORTLAND	39.40	39.40	73.40	40.20
MEMPHIS, TENNESSEE	LOS ANGELES	43.40	43.40	73.40	40.20
	SAN FRANCISCO				
	BAKERSFIELD				
	PORTLAND	49.50	49.50	73.40	40.20

1/ MINIMUM WEIGHTS: BOX CARS 100,000 LBS., COVERED HOPPER CARS NOT LESS THAN 150,000 LBS. BUT MARKED CAPACITY. 2/ IN PACKAGES, IN BOX CARS - 60,000 LBS. 3/ IN BULK, IN TANK CARS - 150,000 LBS.

RAIL TRANSPORTATION TARIFFS, ASCS.

for export. The difference between the prices received by farmers for soybeans and the average revenue from processed products at final users is the cost for services by marketing, handling, and processing firms. The processors' margin includes the transportation costs of procuring soybeans, but does not include the costs of transporting soybean meal and oil to domestic users or exporters. The feasibility of processing soybeans on the West Coast depends largely on the transportation rates of soybeans versus soybean products, meal and oil, and processing costs for alternative size new plants.

Production Feasibility at West Coast Locations

It is feasible to grow soybeans at several West Coast locations in California and Oregon. The economic feasibility of soybean production on the West Coast has been analyzed by other researchers (1). The minimum price at which locally produced soybeans in Oregon became an economically feasible alternative compared with alternative crops was $10.15 per bushel for the 1976/77 crop year. Price quotes for soybeans produced in California were in the range of $10.43 to $10.85 per bushel for the 1976/77 crop year. For recent years up through the 1977/78 crop year, the cost of purchasing and transporting soybeans from the Midwest to West Coast points has been less than the cost of producing soybeans in competition with other West Coast crops. Soybean production at West Coast locations is not economically feasible under present conditions.

Feasibility of Soybean Processing at West Coast Locations

The basic data for evaluating the feasibility of a soybean processing plant at West Coast locations are:

1. Annual spot and/or cash soybean prices at some major Midwest and southern markets, marketing year 1977/78 (table 10).
2. Railroad transportation rates from Midwest and southern markets to West Coast locations as of November 1978 (table 11).
3. Soybean processing costs for several plant sizes as of December 1977 (table 12).
4. Spot prices of soybean meal and crude soybean oil at West Coast locations, marketing year 1977/78 (table 13).

The costs of processing soybeans for alternative size plants of 1,200, 2,000, and 3,000 tons per day were obtained from another study (3). U.S. soybean processing plants averaged about 1,245 tons per day for the 1977/78 marketing year, and none was as large as the 3,000-ton-per-day plant size. Processing costs associated with these size plants are representative of the investment costs for a new plant for the 1977/78 marketing year.

Specification of Methodology Used

For study purposes, the profit margin for soybean processing at the West Coast locations is determined by taking a representative Midwest or southern market's soybean spot price, adding soybean transportation costs and soybean processing costs, and subtracting the sum from the value or prices of soybean meal and oil at West Coast locations, expressed in soybean equivalents. The annual spot soybean prices (1977/78 marketing year) are from four major markets: (1) Decatur, Ill.; (2) Minneapolis, Minn.; (3) Kansas City, Mo.; and (4) Memphis, Tenn. Railroad transportation rates (costs) were obtained for soybeans from each of these origins to three major West Coast locations—Los Angeles, Calif.; San Francisco, Calif.; and Portland, Oreg. (4). The soybean processing costs for three plant sizes were added to the costs of purchasing and transporting soybeans from major Midwest and southern markets to West Coast locations.

Results

For the assumed costs of procuring soybeans from selected origins, transportation rates from those origins, and processing costs for the three plant sizes analyzed, all profit margins from processing soybeans at West Coast locations were *negative* (table 14). Therefore, processing soybeans on the West Coast was not economically feasible under the assumptions made.

Soybeans shipped from Minneapolis, Minn., and processed in Portland, Oreg., provided the most favorable origin-processing combination with a *negative* margin of $-4.21 per ton for the 3,000-ton-per-day plant. The least favorable was the Memphis-Portland combination with a negative margin of $-23.97 per ton for the 1,200-ton-per-day plant. The variability in profit margins due to differences in soybean prices at origin, transportation rates, processing plant sizes, and destinations was $19.76 per ton.

Kansas City, Mo., was the most favorable origin for soybeans processed in California. The largest plant size at California destinations for soybeans from Minneapolis had better profit margins than for the smallest California plant for soybeans from Kansas City. Another example shows that soybeans from Minneapolis that were processed at Portland in the 1,200-ton-per-day plant had the same profit margin as soybeans from Kansas City and processed at Portland in the 3,000-ton-per-day plant ($-6.54).

TABLE 12--U.S. SOYBEAN PROCESSING COSTS

PROCESSING CAPACITY	1977 TOTAL COST
TONS PER DAY 1/	DOLLARS PER TON 2/ 3/
1200	17.83
2000	16.17
3000	15.50

1/ ASSUMES OPERATING AT 90 PERCENT CAPACITY, 330 DAYS PER YEAR, AND 24 HOURS PER DAY. 2/ ASSUMES 90 DAYS OF SOYBEAN STORAGE CAPACITY. 3/ ASSUMES UNIFORM LOCAL PROCESSING PLANT COSTS AT ALL DOMESTIC LOCATIONS.
MIXON, BOBBY JOE, "ECONOMICS OF SIZE IN SOYBEAN PROCESSING PLANTS," UNPUBLISHED M.S. THESIS, DEPARTMENT OF AGRICULTURAL ECONOMICS, UNIVERSITY OF ARKANSAS.

TABLE 13--PRICES OF SOYBEAN MEAL AND CRUDE SOYBEAN OIL AT WEST COAST LOCATIONS

ORIGIN	PRICES 1977-78	
	SOYBEAN MEAL (44%) 1/	SOYBEAN OIL (CRUDE) 2/
	DOLLARS PER TON	
LOS ANGELES, CALIFORNIA	196.00	520.20
SAN FRANCISCO, CALIFORNIA	196.10	520.20
PORTLAND, OREGON	197.60	520.20

1/ GRAIN MARKET NEWS. 2/ ECONOMIC, STATISTICS, AND COOPERATIVES SERVICE. CRUDE SOYBEAN OIL PRICE QUOTES, DECATUR, ILLINOIS. (24¢/lb. + TRANSPORTATION COSTS FOR 150,000 LB. TANK CARS).

Limitations of Assumptions

The oil content of soybeans from northern States tends to be less than for middle and southern States. This factor was not measured in the analysis. Less oil content in soybeans results in lower soybean prices, and this may be reflected in the prices of soybeans in northern States.

Multiple-car or unit train rates on soybeans were not included in the analysis since unit train rates require significantly larger volume movements. Rates for unit trains are significantly lower than single-car rates for soybeans and could help to make soybean processing feasible at West Coast locations.[2] Unit train rates in 1977/78 were about 50 percent lower than current single-car soybean rates. If unit train rates were at least 30 percent lower, soybeans could move to the West Coast for processing from several Midwest or southern locations on strictly a rate structure basis.[3] A soybean processing operation could be combined with an export operation to take advantage of economies of large soybean shipments via unit train movements. Such a combined operation would enable the soybean processing operation's size to be more flexible relative to the local and export demands for soybean meal and oil.

A soybean processing operation also might be combined with cottonseed or safflower processing. A switch processing operation combining cottonseed and soybean processing could result in better utilization of present unused capacity or of planned soybean capacity. The costs associated with switch operations were not obtained for this study.

Single-car rates on crude soybean oil shipments also affected the analysis. The largest car (150,000-lb. rail car) had the lowest rate and was used to determine the value of crude soybean oil at West Coast locations because crude soybean oil price quotes were not available.

The economies of size of soybean processing plants are significant (3). A plant processing 2,000 tons per day had an estimated 9.3-percent lower cost than a plant at 1,200 tons per day; and a plant at 3,000 tons per day had an estimated 6.7-percent lower cost than a plant at 2,000 tons per day. Data for previous years indicate that processing costs are increasingly greater for plant sizes smaller than 1,200 tons per day (2).

Conclusions

Results indicate that establishing soybean processing plants at West Coast points is not economically feasible. The primary reasons are that the costs per ton of processing soybeans in a "new" plant are likely to be higher than for "old" processing plants, and that the transportation rate structure treats the costs per unit of shipping soybeans versus soybean products, meal, and oil about the same. The result is that a Midwest processor can buy the soybeans and ship the products to the West Coast at a lower cost than a West Coast processor with new equipment can buy and process soybeans. However, some factors such as unit train movements of soybeans could narrow the spread and might make soybean processing at West Coast locations a feasible alternative. Large-scale soybean shipments may need to be combined with soybean export and processing operations or a switch soybean-cottonseed processing operation in order to be an economically feasible alternative. At the present, soybean production on the West Coast is largely experimental, and therefore does not provide enough supply to significantly affect the domestic or export markets for soybeans.

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4. Venning, Richard, "Rail Transportation Tariffs," November 1978, ASCS, USDA, Washington, D.C.

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[2] Soybeans are presently shipped in large volumes via barge from Midwest and southern points to the New Orleans seaport for export, including Asian nations.

[3] However, other costs, such as assembly and storage, may increase due to the large volume movements of unit trains.

TABLE 14. --PROFIT MARGINS TO PROCESSING SOYBEANS AT WEST COAST LOCATIONS

ORIGIN	DESTINATIONS			
	PLANT SIZE	LOS ANGELES, CALIFORNIA	SAN FRANCISCO, CALIFORNIA	PORTLAND, OREGON
	TONS PER DAY	DOLLARS PER DAY		
DECATUR, ILLINOIS	A) 1200	-22.89	-22.74	-21.31
	B) 2000	-21.23	-21.08	-19.65
	C) 3000	-20.56	-20.41	-18.98
MINNEAPOLIS, MINNESOTA	A) 1200	-12.02	-11.87	-6.54
	B) 2000	-10.36	-10.21	-4.88
	C) 3000	-9.69	-9.54	-4.21
KANSAS CITY, MO	A) 1200	-10.45	-10.30	-8.87
	B) 2000	-8.79	-8.64	-7.21
	C) 3000	-8.12	-7.97	-6.54
MEMPHIS, TENNESSEE	A) 1200	-19.45	-19.30	-23.97
	B) 2000	-17.79	-17.64	-22.31
	C) 3000	-17.12	-16.97	-21.64

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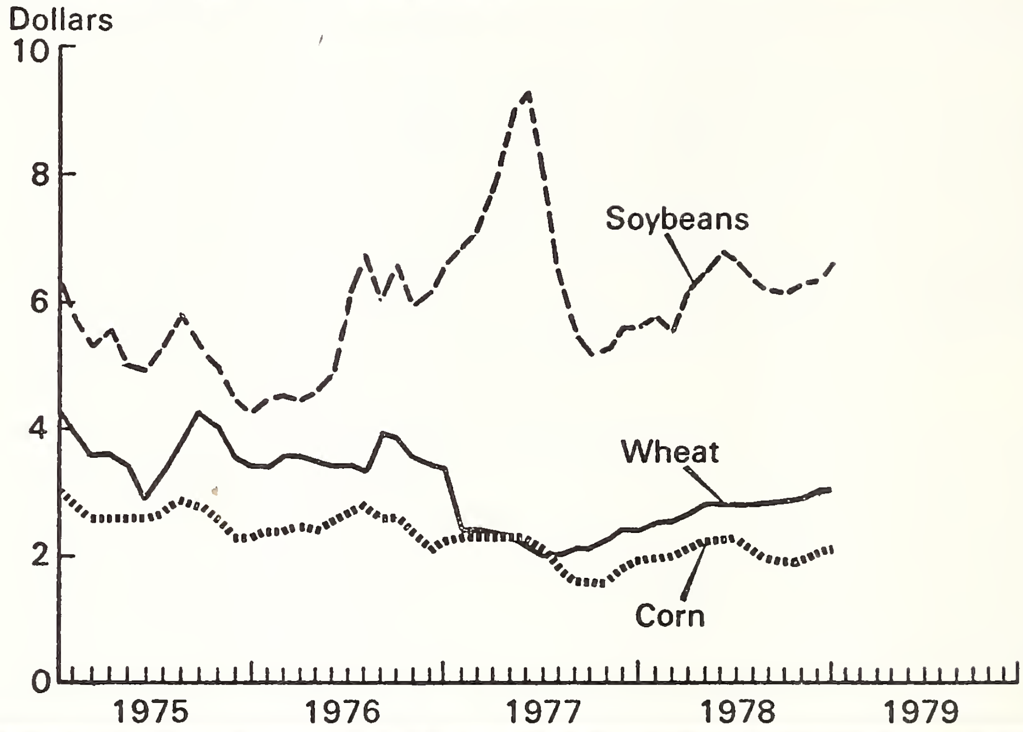
Prices Received by Farmers



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